



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 09/830,038 | 07/17/2001 | Klaus Hohn | 12406-017001 | 9454 |
| 7590 03/11/2004 | | | EXAMINER | |
| Fish & Richardson 225 Franklin Street Boston, MA 02110-2804 | | | DINH, TUAN T | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2827 | |

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-----------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 09/830,038 | Applicant(s) HOHN ET AL. | |
| | Examiner Tuan T Dinh | Art Unit 2827 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 27-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 27-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

The request filed on December 31, 2004 for a Request for Continued Examination (RCE) under 37 CFR 1.114 based on parent Application No. 09/830,038 is acceptable and a RCE has been established. An action on the RCE follows.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 28 and 30-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 28, lines 4-5, it is confuse. The phrase of "said component is an unsoldered component" is not understood. Applicant states, in amendment filed in 11/03/03, "unsoldered component means a component that has not been soldered or prior to soldering" which is incorrect. The component is a unsoldered component which means is not be solder by a solder material, and further, in figure 1, applicant states that "a component (10 mounted on a substrate (7) by solder (3). Therefore, the phrase is contradiction and paradox.

Regarding claim 30, line 4, it is unclear. Applicant should clarify what is intended by "said component is apart from any support structure." What does applicant mean of "support structure" in a specification and drawings.

Regarding claim 31, it is unclear. Applicant should clarify what is intended by "said coating has an end, and said coating ends at said component" where is "an end of said coating coated on the component?" and where is "said coating ends at said component?"

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-7, 27, 29, and claims 28, 30-31 insofar as in compliance with 35 USC 112, second paragraph, are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior Art (hereafter PA, admitted by applicant) in view of Higgins, III (U. S. Patent 5,639,989).

Regarding claims 1-7, 27-28, and 30-31, PA discloses a surface mountable radiation emitting and/or radiation sensitive electro optical component (1) as shown in figure 2, particularly a surface-mountable radiation-emitting and/or radiation-sensitive electro-optical component (LED-1), having a plastic housing (14) that includes at least one metallic soldering area (4), and wherein said component (10) is apart from any support structure (for example: adhesives 11-13, and solder 3 shown in figure 2).

PA does not disclose an anti-solder coating on a surface, except for the at least one metallic soldering area, of the housing.

Higgins does show a conformal insulative layer or coating essentially consists of polysiloxane (24, column 6, lines 18-32) applied directly on a part of die (13) and not covered conductive pad of the die as disclosed in figure 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have an anti-solder coating essentially consists of polysiloxane as taught by Higgins to modify the electronic component of PA in order to increase resistance to environmental stresses.

Regarding claim 29, PA and Higgins do not disclose or suggest the coating prior to soldering of the component at the soldering area. However, one skill in the art at the time the invention was made to employ a coating on a surface of a component prior to soldering the component by reflowing solder after the coating formed on the component, the purpose of coating material on the surface of component prior soldering the component that prevents an ESD for the component during a manufacturing assembly.

Response to Arguments

3. Applicant's arguments filed 11/03/03 have been fully considered but they are not persuasive.

Applicant argues:

(a) Higgins does not have "a function as an anti-solder coating because a poly material applied after soldering."

(b) Higgins doe not have "an anti-solder properties or benefits because the coating applied until the device is already soldered."

Examiner disagrees.

Response to argument (a) and (b), Hawlays's Condensed Chemical Dictionary shows **a silicone or siloxane material** having an anti-solder properties or benefits, see an attached paper, so that Higgins clearly discloses a polysiloxane coating, which has an anti-solder properties. Further, the word "solder or soldering" which is defined as refined, reflow, or reflowing. Therefore, after the polysiloxane coating is coated on a surface of a component (13) then the component maybe reflows after coating the component.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Gutierrez et al., Lynch, and Anderson et al. disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan T Dinh whose telephone number is 571-272-1929. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kammie Cuneo can be reached on 571-272-1957. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2827

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tuan Dinh
February 26, 2004.

David A. Zarnke
David A. Zarnke
Primary Examiner
3/3/4